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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALEKSANDRA MOJSILOVIC and BERNICE
ROGOWITZ

Appeal 2009-002695
Application 10/033,597
Technology Center 2600

Decided: October 28, 2009

Before KENNETH W. HAIRSTON, MARC S. HOFF, and KARL D.
EASTHOM, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1 and 3 to 28. Claims 2 and 29 to 38 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse. We also enter new grounds of rejection under 37 C.F.R. § 41.50(b).

Appellants' claimed invention is directed to computer implemented method and system for determining the semantic meaning of images (Spec. 4:7-6:30; Fig. 1; claims 1, 14, and 25). The computer program of the method and system derive perceptual semantic categories by modeling a combination of perceptual features, which are in turn derived through "subjective experiments performed with human observers" (claims 1, 14, and 25; Abstract).

Claim 1 is representative of the claims on appeal, and read as follows:

1. A computer implemented method for determining the semantic meaning of images, comprising:

deriving a set of perceptual semantic categories for representing important semantic cues in the human perception of images, where each semantic category is modeled through a combination of perceptual features that define the semantics of that category and that discriminate that category from other categories, wherein the perceptual features and their combinations are derived at least in part through subjective experiments performed with human observers; and

for each semantic category, forming a set of the perceptual features as a complete feature set CFS.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Jain

US 5,915,250

Jun. 22, 1999

The Examiner rejected claims 1 and 3 to 28 under 35 U.S.C. § 102(b) as being anticipated based upon the teachings of Jain.

The Examiner contends (Ans. 3-4, 9-10) that Jain discloses deriving perceptual features and their combinations through subjective experiments performed with human observers.

ISSUE

Appellants contend that Jain fails to teach the limitations common to all of the independent claims of perceptual features and their combinations that are derived at least in part through subjective experiments performed with human observers (App. Br. 6-13; Reply Br. 2-5). Appellants choose claim 1 as representative of independent claims 1, 14, and 25 (App. Br. 6), and contend that claims 14 and 25 are patentable for the same reasons as claim 1 (App. Br. 13; Reply Br. 5).

The sole issue before us primarily concerns whether or not the applied reference to Jain teaches perceptual features and their combinations that are derived at least in part through *subjective experiments performed with human observers*, as set forth in all of the claims on appeal.¹ The issue

¹ Independent claim 1 and each of dependent claims 3 to 12, by virtue of their ultimate dependency from claim 1, recite “wherein the perceptual features and their combinations are derived at least in part through *subjective experiments performed with human observers*” (claim 1) (emphasis added). Independent claim 14 and each of dependent claims 15 to 24, by virtue of their ultimate dependency from claim 14, recite “a set of perceptual semantic categories that were previously derived at least in part through *subjective experiments performed with human observers*” (claim 14) (emphasis added).

presented is whether Appellants have shown that the Examiner erred in rejecting each of claims 1 and 3 to 28 under § 102(b).

FINDINGS OF FACT

1. As indicated *supra*, Appellants describe and claim a data processing system 100, data processor 101, graphic user interface 105, memory 103, and image database 104 (*see generally* Fig. 1), and method for determining the semantic meaning of images (Spec. 4:7-6:30; claims 1, 14, and 25). The method and system use a computer program and program instructions stored in memory 103 to cause the data processor 101 to derive perceptual semantic categories by modeling a combination of perceptual features which are derived through “subjective experiments performed with human observers” (Spec. 8:16-23; claims 1, 14, and 25; Abstract).

2. Appellants describe “subjective experiments performed with human observers” in the Specification as “a series of psychophysical experiments and analyses” where “the results are used to discover a set of the low-level image features to describe each category” (Spec. 11:25-27). According to Appellants, “[t]he methods are based on the results of subjective experiments aimed at: a) developing and refining a set of perceptual categories” (Spec. 12:3-4). “Seventeen subjects participated in these experiments ranging in age from 24 to 65” (Spec. 14:22). Appellants describe the experiments as follows:

Independent claim 25 and each of dependent claims 26 to 28, by virtue of their ultimate dependency from claim 25, recite “where the perceptual features and their combinations are derived through *subjective experiments performed with human observers*” (claim 25) (emphasis added).

A series of experiments were conducted: 1) an image similarity experiment aimed at developing and refining a set of perceptual categories for photographic image databases, 2) a category naming and description experiment aimed at deriving a semantic name for each category, and a set of low-level features which describes it, and 3) an image categorization experiment to test the results of the metric, derived from the previous experiments, against the judgments of human observers on a new set of photographic images.

(Spec. 14:4-9).

PRINCIPLES OF LAW

Anticipation

Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as they would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004); *In re Morris*, 127 F.3d 1048, 1053-54 (Fed. Cir. 1997).

“[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (citations omitted).

The meaning of a claim term and the scope of the claim can not depend solely on the unrestrained, subjective opinion of the person

practicing the invention. *Datamize LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005).

A prior art rejection can not be sustained when speculative assumptions concerning the meaning of claim language and the scope of the claim would have to be made. *In re Steele*, 305 F.2d 859, 862-63 (CCPA 1962). “If no reasonably definite meaning can be ascribed to certain terms in the claim, the subject matter does not become [patentable][], the claim becomes indefinite.” *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

ANALYSIS

Claim terms should be given their broadest reasonable meaning in their ordinary usage as such claim terms would be understood by one skilled in the art by way of definitions and the written description. *Morris*, 127 F.3d at 1054. At issue in the instant case is the meaning of the term “subjective experiments performed with human observers,” as used in the claims on appeal (claims 1, 14, and 25).

Turning to Appellants’ disclosure regarding the subjective experiments, we find that the disclosure describes “a series of psychophysical experiments and analyses” using seventeen subjects ranging in age from 24 to 65, and that the methods of the invention are based on the results of such subjective experiments (FF 2). Thus, the term “subjective experiments performed with human observers,” which is recited in each of independent claims 1, 14, and 25 (and their corresponding dependent claims), and lies at the heart of and forms the central basis for the method (claim 1), program (claim 14), and program instructions (claim 25), is completely based on human judgment of similarities and is completely

subjective. Accordingly, we are not able to determine the metes and bounds of the claimed invention set forth in claims 1 and 3 to 28 with any certainty. Accordingly, the prior art rejection of claims 1 and 3 to 28 is reversed because a prior art rejection can not be sustained if speculative assumptions would have to be made concerning the meaning of the claim language. *Steele*, 305 F.2d at 862-63.

CONCLUSION OF LAW

As indicated *supra*, the prior art rejection is reversed because speculative assumptions would have to be made concerning the metes and bounds of the “subjective experiments performed with human observers” set forth in all of the claims on appeal, and not because of any asserted deficiencies in the teachings of Jain. Thus, we have not reached the merits of the issue of whether the Examiner erred by finding the teachings of Jain would anticipate claims 1 and 3 to 28.

NEW GROUND OF REJECTION UNDER 37 C.F.R. § 41.50(b)

Under 37 C.F.R. § 41.50(b), we enter a new ground of rejection under 35 U.S.C. § 112(2) for claims 1 and 3 to 28. Claims 1 and 3 to 28 are rejected under 35 U.S.C. § 112 for indefiniteness because the metes and bounds of the disclosed and claimed invention can not be determined based on the claiming of “subjective experiments performed with human observers” (claims 1, 14, and 25).

According to *In re Moore*, 439 F.2d 1232, 1235 (CCPA 1971), any analysis under the second paragraph of 35 U.S.C. § 112 begins with a determination of whether the claims do, in fact, set out and circumscribe a

particular area with a reasonable degree of precision and particularity when read in light of the application disclosure as they would be by one possessing ordinary skill in the art. As indicated *supra*, the claims on appeal fail to pass such a test as set forth in *Moore*.

“While beauty is in the eye of the beholder, a claim term, to be definite, requires an objective anchor.” *Datamize v. Plumtree Software*, 417 F.3d at 1350. “Some objective standard must be provided in order to allow the public to determine the scope of the claimed invention.” *Id.* The claims on appeal lack such an objective element, and instead are centered around the subjective judgments of human observers. Claims containing a term that is completely dependent on a person’s subjective opinion are indefinite. *Id.*

ORDER

The anticipation rejection of claims 1 and 3 to 28 is reversed.²

We have entered new grounds of rejection under 37 C.F.R. § 41.50(b) for claims 1 and 3 to 28.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides that “[a] new ground of rejection ... shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

² Our reversal of the prior art rejection does not mean that the Examiner’s findings and conclusions with respect to Jain used in rejecting the claims lacks merit.

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

REVERSED; 37 C.F.R. § 41.50(b)

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